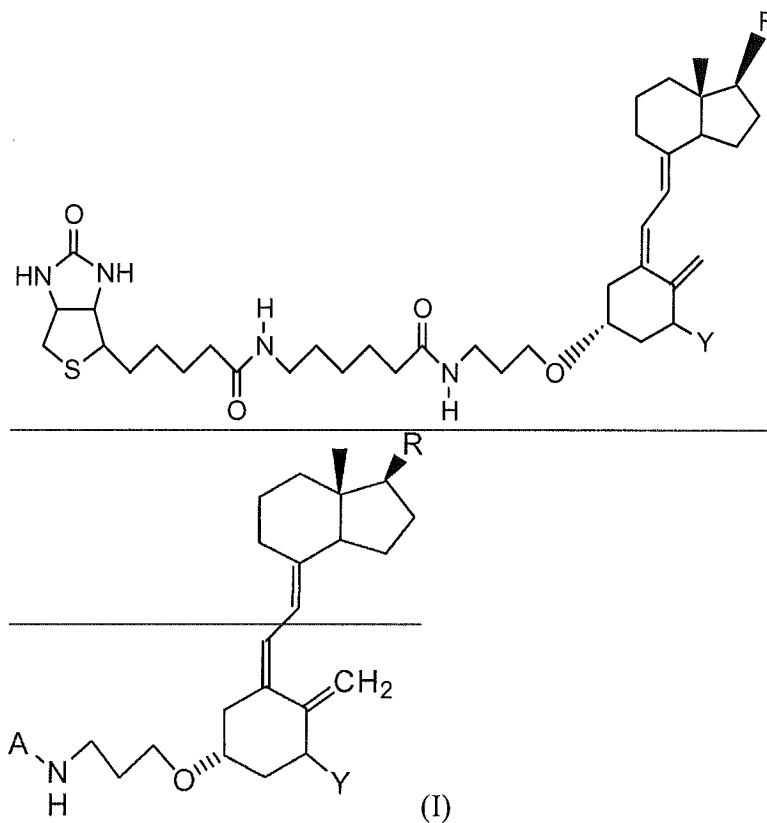


AMENDMENTS TO THE CLAIMS

1. **(Currently Amended)** A method of measuring the amount of a 25-hydroxy vitamin D metabolite, $1\alpha,25$ -dihydroxy vitamin D metabolite or both in a sample using a competitive protein binding assay, wherein displacement of a vitamin D derivative from a vitamin D binding protein is measured and the vitamin D derivative displaces a 25-hydroxy- or $1\alpha,25$ -dihydroxy vitamin D metabolite or both from the vitamin D binding protein,

wherein a displacement efficiency of approximately 1 is obtained by using a vitamin D derivative of formula (I):



wherein:

R represents a 25-hydroxylated side-group of vitamin D₂ or of vitamin D₃;

Y represents hydrogen or hydroxy;

~~A represents a functional group, coupled via a spacer group, selected from the group consisting of biotin, digoxigenin, amino acids, characteristic amino acids and~~

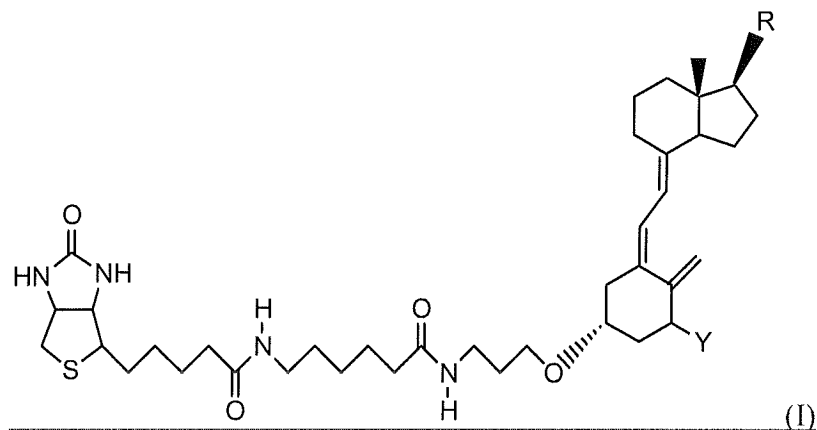
~~peptide sequences, FITC, proteins, peptide groups, protein A, protein G and vitamin D derivatives; and wherein the measurement of displacement of a vitamin D derivative from a vitamin D binding protein in the sample is correlated to the measurement of displacement of a vitamin D derivative from a vitamin D binding protein using a known quantity of the vitamin D derivative to determine the amount of a 25-hydroxy vitamin D metabolite, 1 α ,25-dihydroxy vitamin D metabolite or both in the sample~~

~~obtained by a method comprising:~~

- ~~a) — cyanoethylating the 3-hydroxy group of a vitamin D starting compound in the presence of potassium hydride and tertiary butanol;~~
- ~~b) — adding lithium hydride and converting the 25-hydroxy group into the lithium alcoholate and subsequently reducing the nitrile group with lithium aluminium hydride; and~~
- ~~b) linking a spacer group selected from amino carboxylic acid radical and amino polyether radical, together with a functional group A on the resulting amino propylether side chain.~~

2. **(Original)** The method of claim 1, wherein the method is a competitive immunoassay, selected from the group consisting of radioimmunoassay, enzyme immunoassay enzyme-linked immunosorbent assay, luminescence immunoassay and fluorescence immunoassay.
3. **(Original)** The method of claim 1, wherein the method is sandwich immunoassay, selected from the group consisting of immuno radiometric assay, IEMA/EIA, immuno luminometric assay and immunofluorometric assay.
4. **(Currently Amended)** A kit for detection of 25-hydroxy- ~~and or~~ 1 α /25- dihydroxy vitamin D metabolites or both in a sample on basis of a competitive protein binding assay, wherein displacement of a vitamin D derivative of the formula (I) from a vitamin D binding protein is measured and the vitamin D derivative displaces a 25-hydroxy- or 1 α ,25-dihydroxy vitamin D metabolite from the vitamin D binding protein, comprising a standardized quantity of solid

The chemical structure shows a steroid nucleus (three fused six-membered rings and one five-membered ring). The five-membered ring has a methyl group (represented by a wedge) and a substituent R (represented by a dash). The steroid is connected via a double bond to a side chain. The side chain consists of a double bond, followed by a CH₂ group, and then a six-membered ring. This six-membered ring has a double bond to a CH₂ group and a substituent Y. The six-membered ring is also connected via an oxygen atom to a three-carbon chain, which ends in a terminal group A. The oxygen atom is shown with a wedge bond, indicating stereochemistry.



Y represents hydrogen or hydroxy;

DRN/MHE/cjd

~~FITC, proteins, peptide groups, protein A, protein G and vitamin D derivatives, which can be bound by a protein with high affinity;~~

~~wherein the vitamin D derivative is obtained by a method comprising:~~

- ~~a) — cyanoethylating the 3 hydroxy group of a vitamin D starting compound in the presence of potassium hydride and tertiary butanol;~~
- ~~b) — adding lithium hydride and converting the 25 hydroxy group into the lithium alcoholate and subsequently reducing the nitrile group with lithium aluminium hydride; and~~
- ~~c) linking a spacing group, selected from amino carboxylic acid radical and amino polyether radical, together with a functional group A on the resulting amino propylether side chain.~~

5-6. (Cancelled)

7. **(Original)** The kit of claim 4 comprising a solid phase selected from the group consisting of a microtitration plate, another solid carrier, a microparticle, a polymeric material, and a cellulose.

8. **(Original)** The kit of claim 7, in which the solid phase is a microparticle comprising agarose.

9. **(Original)** The kit of claim 7, in which the solid phase is a magnetic microparticle.

10. (Canceled)

11. **(Previously Presented)** The method of claim 1, wherein said competitive protein binding assay is selected from the group consisting of an enzyme immunoassay, an enzyme-linked immunosorbent assay, a radio immunoassay, an immunoradiometric assay, a luminescence assay, a fluorescence immunoassay and an immunofluorometric assay.

12. (New) The method of claim 1 wherein Y is hydroxy.

13. (New) The kit of claim 4 wherein Y is hydroxy.